December 21 draft

A. The State Water Board should expeditiously review and modify the estuarine habitat standard in the Bay Delta Water Quality Control Plan to provide year-round protections for aquatic species. The Delta Stewardship Council's draft Delta Plan calls for this action by June 2014. EPA will support the Board's decision-making by convening a series of technical workshops beginning in March 2012 designed to quantify how biological indicators change in response to different locations of the low salinity zone in the Estuary. ***(perhaps partnering with the Delta Science Program on workshops – this not certain yet)***

The water quality standards promulgated under the Bay Delta Accord of 1994 were designed to protect pelagic fishes based on findings that their reproduction and survival was enhanced when the 2 ppt salinity isohaline was positioned downstream of the Western Delta. The springtime standards, commonly referred to as "X2," were designed to restore the relationship between springtime precipitation and the geographic location and extent of estuarine habitat per conditions in the late 1960s and early 1970s. The standards were indexed to monthly inflows to the eight largest reservoirs and compliance is achieved by positioning the isohaline downstream of one of three locations: Roe Island (65 km from Golden Gate Bridge and adjacent to Suisun Bay/Marsh), Chipps Island (74 km), or the confluence of the Sacramento and San Joaquin rivers (81 km) (see Figure 1).[1]

Once the standards were implemented, and a series of wetter years occurred in the late 1990s, pelagic fishes enjoyed significant increases in their numbers. However, this recovery was short lived as pelagic species suffered unexpected, dramatic declines ("pelagic organism decline" or "POD") early in the 2000s. This time period coincided with major increases in fall export pumping in the South Delta. Since then, during fall, the low salinity zone (LSZ) has been fixed in the Western Delta where estuarine habitat is compressed into modified, inhospitable river channels. Consequently, no matter how favorable conditions might be for pelagic fishes during the winter and spring, they have limited and poorly positioned estuarine habitat during the fall.

In December 2009, USFWS issued a Biological Opinion to protect delta smelt which required limited re-establishment of estuarine habitat in the fall in wet and above-normal water years. This was an important regulatory decision, but its future is uncertain due to litigation. Given the State's timetable for updating the Bay Delta Water Quality Control Plan, scientists and regulators are presented with an excellent opportunity to harness all the scientific research done since 1995 that could inform pending regulatory decisions on estuarine habitat standards. Specifically, we have an opportunity to design water quality standards that will protect estuarine habitat on a year round basis to benefit a full suite of pelagic fishes. Comprehensive habitat protection will safeguard the resident aquatic community and allow long-term water resource planning, include the Bay Delta Conservation Plan, to proceed with more certainty.

EPA will convene a series of technical workshops beginning in March 2012 to: (i) refine 3D models to map and quantify the changing volume of estuarine habitat as the LSZ moves from the Western Delta through the Carquinez Strait; (ii) identify biological indicators that respond to different positions of the LSZ and can be used as measures of ecosystem health; and (iii) create a scenario describing changes in the volume of estuarine habitat due to climatic variability and water management for all seasons of the year. These scientific findings will be submitted to the Board in time for their hearings on the Bay Delta Water Quality Control Plan. [23]

[1] The history and background of the X2 standard is discussed at length in the ANPR at pp. 52-56 and the associated

footnotes.

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